names file has a key field and three other fields: membno, surname and forename. The names file key field is made up of a combination of the first ten characters of the surname and the membership number. This ensures that each record is unique. Of course you could use fewer characters of the surname as this saves memory. Records are entered into the database under program control (see program enter.record). The program sets up two records; one in the members file stored with the membership number as the key; and one in the names file stored with the surname/membno as key. Access to any record is also done under program control (see program select.record). Selecting by membership number is exactly the same as normal direct SELECT KEY and takes exactly the same time. To select by surname is a little more complicated. Firstly you tap in the surname. The names record appears and you have to confirm that you have the right record. If there are several people with the same surname then you can SELECT NEXT or PREVIOUS until you locate the correct record by checking the forename field.

And now finally, the record formats and programs. Both files are set up with no duplicate keys. The programs are reasonably straightforward. Although this was set up on a C128/1570 system, it should work on any other Commodore and Superbase setup with only very slight modification.

```
File Def: club/members
    name       type len
1 membno       Key   4
2 surname      Txt   20
3 forename     Txt   20
4 add1         Txt   24
5 add2         Txt   24
6 town         Txt   24
7 county       Txt   16
8 postcode     Txt    8
9 telephone    Txt   16
```

```
File Def: club/names
    name       type len
1 key          Key   14
2 membno       Txt    4
3 surname      Txt   20
4 forename     Txt   20
```

```
1 rem save "enter-record":menu
2 ask &4"membership number"m$:ask &20"surnames"$:ask &20"forename"f$
3 file "members"
4 clear:[membno]=m$:[surname]=s$:[forename]=f$:store
5 file "names"
6 clear:[key]=left$(s$,10)+m$:[membno]=m$:[surname]=s$:[forename]=f$:store
7 file "members"
8 select m$:select r
```


AMIGA WATCH

by Mike Todd

Hidden messages

Now, if you were a part of a close knit team designing a computer which was expected to be a world leader, wouldn't you want to add your signature to it, just as an artist adds his to the fruits of his labours? I'm sure you would, and the Amiga design team feel much the same.

If you've already been bold enough to take off the top of your A1000 Amiga, I'm sure that you'll have seen the many signatures, pictograms and paw prints "engraved" into the underside. This may also be true of the A500 and A2000.

As if that weren't enough, there are "signatures" and messages hidden within the operating software. This habit dates back to the very early PETs when MICROSOFT hid a copyright message in the ROMs that would appear when the command WAIT 6502,50 was entered. Well, being rather more sophisticated, the Amiga's messages are more numerous and need a little more work to get at. First of all, there are a couple of straight ASCII messages embedded in KICKSTART - these need a short BASIC program to extract them.

```
DATA 3, 16543736, 16649670, 16728512
READ Number
WIDTH 40
FOR X = 1 TO Number
  IF X=3 THEN WIDTH 16
  READ Address&
  WHILE PEEK(Address&) <> 0
  PRINT CHR$(PEEK(Address&));
  Address& = Address& + 1
  WEND
PRINT:PRINT
NEXT X
```

This is for version 1.2; those with version 1.1 have only two messages and should use a DATA statement of:

```
DATA 2, 16544650, 16653596
```

Now, before someone has a go at me for not using the hex notation feature of

AmigaBASIC (where hex numbers can be written &Hffc0 for instance) I should point out that, for some peculiar reason, the hex numbers are limited to 4 hex digits, with &Hffff being the equivalent of decimal -1. Frustrating, what!?

Now, having seen these three messages let's go back to the Workbench screen and flex a few fingers. For the following exercise you'll need a large and flexible hand (and KICKSTART 1.2)!

Arrange the screen so that you can see the Workbench menu bar (with the "Workbench release 1.2" message in it) and then perform the following manual acrobatics by pressing the following four keys together: Left-SHIFT, Left-ALT, Right-SHIFT and Right-ALT.

Now, with your other hand (or nose!) press the function keys in turn and read the menu bar, and you'll see... well, I'll tell you later.

Whilst you're doing this, pause awhile on F1 and, with whatever appendage you can muster, eject a disk from the internal drive and read the message. There is a second message built into the system which pops out when you put the disk back, but it contains a four letter word and appears to have been censored in my versions of KICKSTART although I can see the encoded message in the operating system code!

Well, we haven't finished yet - load up Preferences in the normal way. Look at the two mouse images on the right and you'll see each one has appropriate mouse buttons. These are actually proper gadgets (i.e. you can click on them). If you consider these "buttons" as A B C D, from left to right, then click on the screen gadgets as follows:

```
A B C D
A B C D
A B C D
A B C D
Change Printer
Printer Select UP Arrow several times
```

Whilst you're clicking on the UP arrow (that's the one which selects which printer and scrolls you through the printer types) watch the menu bar as you try to go beyond the end of the list.

Now, with Preferences still loaded, click on the gadgets again, this time in the following order and you'll see another message:

```
C B D B
D C B B
C B D B
D C B B
Change Printer
OK
Reset Colors
```

There is also an oddity on the Preference display - place the pointer against the left hand edge, just to the left of the date and press the left mouse button. A little black line appears - all the signs that there is a gadget hidden here. No-one knows what it does!

There are rumoured to be lots of other hidden messages (mainly in Preferences) but they appear to be very tricky to get out.

The sluggardly A2000

As I write this (August) there are rumours of a problem with the A2000 which strikes me as being a little worrying. There have been reports on the various computer networks that the A2000 runs much slower than the A1000 (or A500 for that matter).

At the US West-Coast launch of the A500 and A2000, a processor intensive benchmark was run on all three machines. The A500 and A1000 came out with identical timings, but the A2000 was 20% slower - another report of similar tests shows a 12% difference, whilst a further report says 25%.

Exactly what the answer is I don't know, although people around the world have been diving into both the German design and the West Chester design A2000, pulling out bits and pieces and trying to come up with an explanation - but as yet, there are nothing but highly conflicting reports. Perhaps the most plausible is the possibility that the extra 512k added to CHIP memory (that is the memory which the custom chips share with the processor) is slightly different, and has had an extra WAIT state added. The thought is that, to all intents and purposes, there are now three types of RAM in the A2000 (in addition to CHIP and FAST memory in the style of the A500 and A1000).

I'll try to keep across this development, and see if there is a definitive answer (and maybe a solution) - however, there appear to be two different designs of A2000, and it is the West German design that has the problem.

Deluxe-Paint upgrade

I recently talked about the upgrade version of Deluxe-Paint (Deluxe- Paint II) from Electronic Arts, that US users had a cheap upgrade path to the new version and that Precision Software were reluctant to assist in taking advantage

of this offer.

Since then, Electronic Arts have come over to the UK and established a UK office in Langley, Berks. This has three major advantages: first, new EA software should appear in the UK much quicker than before; second, prices will be lower; thirdly, the D-Paint II upgrade is now available in the UK.

For just £29.95, and your D-Paint package front cover, you will receive a copy of D-Paint II and the user manual. The address of Electronic Arts (UK) is Langley Business Centre, 11-49 Station Road, Langley, Near Slough, Berkshire SL3 8YN and it may be helpful if you mention that you heard about this through this column in ICPUG's newsletter. Turn round should be fairly fast (providing that they have sufficient stock) but I have a feeling that demand is likely to be very great, so I'd be patient and allow at least 21 days. Of course, you could always give them a ring to check.

Superbase follow-up

Following my comments on SuperBase personal, I have had several comments for members - some agreeing, others disagreeing with my general points. There is general agreement, however, that the conditions of use inside the manual are appalling. Two individuals have even stated that the very act of publishing such exclusions may be illegal. I agree that these conditions are harsh, especially as one doesn't come across them until after buying the package; however, I can't comment on their legality other than to say, in answer to those that have made the point, that Precision Software would have taken substantial legal advice and not have published anything that could lay them open to either civil or criminal procedings.

As for my other comments, six months of using SuperBase personal has given me further insight into the package and, whilst I still get frustrated at the lack of thought put into certain areas (especially compared with the considerable thought put into other areas) I am begining to enjoy using it, but only because I have discovered some tricks which have saved considerable time in entering masses of data.

For instance, to avoid the long delays while Superbase writes a new record to the disk, I have taken to copying the database to RAM: prior to loading up Superbase and then specifying RAM: as the directory. It's then possible to whizz through the database at a fair old rate of knots and storing a record takes no time at all. By keeping a spare CLI around, it is then possible to periodically do a copy from RAM: to disk to preserve the newly entered data from a system crash.

As a database grows, there may not be enough RAM to hold the complete database - for this eventuallity, I created two copies of the database one of

REVIEW --- THE PHANTOM

by Tim Raynor

Before I start, I must confess to having some interest in this product, having helped in deciding what the Phantom should do. However, I will try to produce a fair, unbiased review. Phantom is a parallel speed enhancement for the 1541 disk drive, which consists of a circuit board for the 1541, a Kernal replacement board for the 64, and a parallel cable which plugs into the User Port.

Installation of the Phantom is relatively simple. The board simply plugs in over the existing 1541 PCB, having first removed a few chips. The unit performs diagnostic checks and will very soon tell you if something is wrong! Also, a replacement kernal ROM needs to be placed in the 64/128.

Once everything was going, the first thing I discovered was an amazing speed increase. I have personally used several parallel speed-up systems and this is by far the fastest. Typically, loading speeds are 5 or so seconds! At this point, I must warn anyone who intends to buy this unit that they must be prepared to go a little thirsty, as there isn't the usual three hours in which to make a cup of tea or coffee!

Built into the kernal is a simple DOS support, and the function keys have been set up: simply press F1 and a directory will appear. There are also some other useful features including OLDing a NEWed program.

The Phantom adds a wealth of DOS commands to the drive. These are largely aimed at the programmer, e.g. print the start and end of a file, and relocate a file, but some are useful for the everyday user, including lock a file from being deleted, fast format, ignore a write protect tab and so on. Furthermore, there is a set of commands which provide a full drive monitor, allowing blocks to be read, displayed, modified and then written out again, and commands to read and edit the 1541 RAM buffers.

In case of problems, various options within Phantom can be disabled. If all fails, the new kernal can be switched out and a GO1541 command makes the Phantom board completely invisible. One point of interest: I have seen one of the designers of the Phantom try GO1541 on my C128 to get into 64 mode!

Lastly, the Phantom comes supplied with a copier program. I have tested it on many programs and have found that it successfully backs up nearly 100% of disks. I would personally like to see companies supplying standard disks that can be backed up without the need of such a program, however the Phantom copier should solve this problem.

I have been using the Phantom with a C64 and C128 for several months now. I personally don't know what I would do without it. I use virtually all of the features of the Phantom, but if you don't program, I would still recommend it for the speed alone! My only real criticism of this unit is the rather high price of nearly eighty pounds. If you are thinking about spending money speeding up your disk drive, I would recommend spending the extra and buying a Phantom rather than saving a little money and buying a cheaper system. Phantom is available from Trilogic, at Unit 1, 253b New Works Road, Low Moor, Bradford BD12 0QP. [Contact the Discounts Officer for further information on discounts.]

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STOP PRESS - NEW 1571 ROMS

Today I received in the post from Commodore, USA, a set of new 1571 and 128 upgrade ROMs. Since this article is due to be collected and taken to the Editor, Bill Bremner, in Salisbury, in about 30 minutes from now, you'll appreciate that I only had time to do the briefest of tests with these new ROMs. You'll be pleased to know that the new 1571 ROMs (version 05) seem to have the bug fixed which caused trashing of the backside of the disk when three channels were open.

When I opened the package and installed all four new ROMs in my 128D, to my disappointment I got no power-on message displayed on screen. As time was very limited I quickly took the 128D apart again, removed the new 128 ROMs and replaced them with the old 128 ROMs for the 1571 test. (I should mention that I also had a modified 64-mode ROM in my 128D which may have been the source of the problem, either that or one of the new ROMs may have been a duff one. I hope to know more next issue when I have had time to attempt re-installation and testing.) With only the new 1571 ROM in my 128D I tried Gregg Perry's test program; success, it ran alright and all 40 records behaved normally. I also did a Validate after the test and found no 'extra' blocks free. So it looks like the 1571 ROMs are OK.

In the next Newsletter we hope to have more information of these ROMs both as to how well they work (Jim Butterfield says people in the States and Canada are happy with them) and their availability. Sorry for lack of further information but there is just no more time.

Jim Kennedy

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SUPERBASE - MULTI-KEY ACCESS

by Peter Hauke

There's only one quick way of selecting a record, and that is to use the SELECT KEY option. The other options are too slow for normal purposes. So what do you do if you want to access your records in a variety of different methods? Consider the following: You have decided to put your club's membership onto a Superbase file. Because of possible duplications you decide to give each member a membership number and use this as the key. The other fields include surname, forename, address fields, telephone, date joined, subscription, etc. Once a month, or so, you print out a list of members in membership number order and one in surname order. If a member calls you up, all you do is ask for his membership number, tap it into the computer and up pops his record. If he does not know his number then all you do is look down the surname list, find his name, get the number and tap that in. Of course, you may need more than two lists. You may have been talking to somebody on the phone and he gave you his telephone number, but you forgot to take his name. A list in phone no. order would solve that problem.

In general, you can print out as many lists as you want (paper, time and money permitting) to access your data in different ways. As long as your database is reasonably static then there is little to worry about. A list once a month will suffice. New members can be added to the end of each list as they join. But what do you do if members are joining and leaving more often? One solution is to print out lists more often, once a week instead of once a month. This becomes time consuming, though, and once you start a print run it is not normally acceptable to interrupt it. You could buy a faster printer or even upgrade all your equipment and buy a database with multi-key access. But none of this is necessary. Multi-key access is available with Superbase! It is not easy though. It takes quite a lot of programming and careful design, but at the end of the day, it is worth it, as not only will your computer suddenly become more interactive but it will also save you money - you won't need to print out so many lists for a start!

The theory: Let's design a simple database which holds membership details and allows you to access any record by either the membership number or surname. The membership number is limited to four characters. Firstly set up a file called 'members' and a second file called 'names'. The members file contains all the usual fields and uses the membership number as the key. The